REMARKS

Claims 1, 4-13, 23, 25-30, and 34-38 were pending in the application. By this paper, claims 5 and 25 are canceled herein without prejudice, claims 1, 4, 6-13, 23, 26-30, and 34-38 are amended, and claims 1, 4, 6-13, 23, 26-30, and 34-38 remain pending. Reconsideration and withdrawal of the various objections and rejections are hereby respectfully solicited in view of the foregoing amendments and the remarks.

Specification Objections

The abstract of the disclosure is objected to for containing the language "the invention relates to..." Applicants have amended the abstract to remove this language and to correspond to the scope of the claims. Thus, Applicants submit that the abstract is in compliance and the objection should be withdrawn.

The written description is objected to relative to the indicated status of the parent application. The written description has been appropriately amended. Thus, Applicants submit that the written description is in compliance and the objection should be withdrawn.

Claim Rejections - 35 U.S.C. §112

Applicants respectfully traverse the rejection of claim 37 under 35 U.S.C. § 112 as containing redundant recitations in relation to claim 28. As previously presented in the preliminary amendment of October 28, 2003, claim 28 recites an adhesive that is one that must be activated, whereas claim 37 recites an adhesive that must be heat activated. Thus, Applicants submit the recitations are not redundant and the rejection should be withdrawn.

Claim Rejections - 35 U.S.C. §103

Applicants traverse the rejection of claims 1, 4, and 6-10 as obvious over Deline (U.S. Patent No. 4,708,257) in further view of Bruun (DE 3,528,903). Each of the pending claims recite a cover made of non-laminated embossed aluminum foil. Neither Deline nor Bruun discloses a protective cover made of non-laminated vermicular embossed aluminum and thus, no combination of Deline and Bruun can render the pending claims obvious.

While Deline discloses a sealing means for a can that may be made of a metal material, Deline does not inherently disclose a non-laminated embossed aluminum foil cover. The term "metal" in column 1, line 65 does not specifically refer to aluminum. Deline also fails to disclose that its seal is composed of aluminum. In fact, the only aluminum material disclosed in Deline is the can material (See, e.g., column 4, line 38). Moreover, Deline states in column 1, lines 64-68, that its preferred material is a thermoplastic resin and at column 2, lines 42-59, and claim 1, Deline discloses that a highlighted embodiment involves a sealing means whereby its film may coil or roll upon release, indicating an elastic thermoplastic resin property. Thus, Deline actually teaches away from using aluminum foil, which does not inherently exhibit a thermoplastic resin property.

While Bruun discloses a pre-formed cup-shaped cap for a bottle neck, the cap having etched stress guide lines (please see translated copy in Exhibit A), Bruun does not disclose a vermicular embossed aluminum foil cover. Instead, Bruun discloses that its bottle caps contain etched lines disposed transverse to the direction of stress applied to the cap when it is pressed onto a bottle opening. Bruun discloses using the etched lines to *prevent deformation* of its pre-formed bottle cap during installation. The claimed cover, on the other hand, contains vermicular embossing patterns that are generally random and without orientation. The vermicular embossing provides for general material pliancy, which is advantageous

when pressing a sheet of the aluminum foil over a can to form a cover and allows the aluminum foil to deform without tearing. This general pliancy allows the material to take on any opening shape. Thus, Bruun teaches the prevention of deformation of its pre-shaped cap using its "embossing", whereas the claimed vermicular embossed cover, in contrast, enables deformation of the foil into the shape of the container opening. Therefore, not only does Bruun fail to disclose vermicular embossing, Bruun teaches away from using vermicular embossing because Bruun uses directed etched lines to prevent deformation.

Because no combination of Bruun and Deline discloses all the elements of the pending claims, no combination of Bruun and Deline can render the pending claims obvious. Also, combining Bruun and Deline would destroy the teachings of each reference because Deline requires elastic properties not found in the aluminum of Bruun, and Bruun requires non-elastic pliancy not found in Deline. Further, each reference teaches away from the claimed apparatus and method. As a result, the rejection should be withdrawn.

Applicants respectfully traverse the rejection of claims 1, 4, 6, 7, 9-11, 23, 27-30, 34, and 35 as obvious over Labbe (U.S. Patent No. 5,647,497) in further view of Bruun. Each of the pending claims recite a cover made of non-laminated vermicular embossed aluminum foil. Neither Labbe nor Bruun discloses a protective cover made of non-laminated embossed aluminum and thus, no combination of Labbe and Bruun can render the pending claims obvious.

While Labbe discloses a removable can cover made of a sheet metal, Labbe does not disclose a protective cover made of non-laminated vermicular embossed aluminum foil. Labbe only mentions aluminum in respect to the material of the beverage can and Labbe further fails to disclose embossing of any kind, much less a vermicular embossed aluminum foil.

Moreover, the Examiner asserts that Bruun makes it obvious to emboss a cover because aesthetic designs and information may be imprinted on the cover. While cover patterns may be imprinted on vermicular embossed surfaces, vermicular embossing is not necessary for pattern imprinting. One skilled in the art would not look to vermicular embossed covers to enable pattern imprinting on covers. Imprinting can be made on many different surfaces, not necessarily just vermicular embossed surfaces. Furthermore, the Examiner interjects this assertion without support from Bruun. Bruun does not disclose, in any manner, the use of its etched embossings for the purposes of pattern imprinting. Instead, as discussed previously, Bruun's etched patterns are strictly used to channel stress forces when applying its cap to a bottle opening.

Because neither Labbe nor Bruun discloses a protective cover made of non-laminated vermicular embossed aluminum foil, no combination of Labbe and Bruun can render the pending claims obvious. Therefore, the rejections based on Labbe and Bruun should be withdrawn.

Applicants traverse the rejection of claims 1, 4, 6-13, 23, 26-30, and 34-38 as obvious over Groppi (U.S. Patent No. 6,336,309) in further view of Bruun and Preisinger (DE 20003282). Each of the pending claims recite a cover made of non-laminated vermicular embossed aluminum foil. None of Groppi, Bruun, or Preisinger discloses a protective cover made of non-laminated embossed aluminum and thus, no combination of Groppi, Bruun, and Preisinger can render the pending claims obvious.

The Office action admits that Groppi does <u>not</u> disclose a cover being formed of embossed aluminum or the thickness of the foil, an adhesive for securing the cover to the can end, or a polygonal shape and pull tab. Instead, Groppi discloses a cover made of thermoplastic synthetic film which plasticizes upon heating and can then be formed around a

can. Aluminum foil does not plasticize when heated. Instead, like most metals, aluminum melts when heat is applied. Therefore, Groppi actually teaches away from using aluminum material because the Groppi process would render aluminum unusable for a cover application.

Preisinger discloses a seal for a beverage can having a ring pull. Preisinger discloses the use of a plastic to form the seal. While Preisinger also mentions that paper, metal, composite, or plastic materials which can immediately stick to the top of a steel sheet container may be considered in its process, Preisinger does not disclose, in any manner, an aluminum foil.

Because none of Groppi, Bruun, or Preisinger discloses a protective cover made of non-laminated vermicular embossed aluminum, no combination of Groppi, Bruun, and Preisinger can render the pending claims obvious. Also, the Groppi, Bruun, and Preisinger references teach away from the claimed combination. For at least these reasons, this rejection of claims 1, 4, 6-13, 23, 26-30, and 34-38 should be withdrawn.

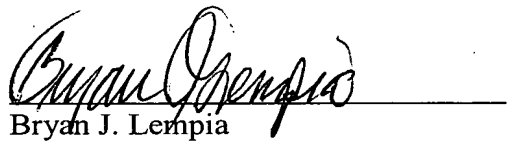
CONCLUSION

Claims 1, 4, 6-13, 23, 26-30 and 34-38 are in condition for allowance in view of the foregoing amendments and the following remarks. Reconsideration and withdrawal of the various objections and rejections are hereby respectfully solicited.

The examiner is invited to contact the undersigned at the telephone number listed below in order to discuss any remaining issues or matters of form that will place this case in condition for allowance.

No fee is believed due at this time. However, the Commissioner is hereby authorized to charge any fee deficiency, or to credit any overpayments, to Deposit Account No. 13-2855 of the undersigned's firm.

Respectfully submitted,



Bryan J. Lempia
Registration No. 39,746
MARSHALL, GERSTEIN & BORUN LLP
233 S. Wacker Dr.
6300 Sears Tower
Chicago, Illinois 60606
(312) 474-6300

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GERMAN PATENT OFFICE

(71) Applicant:
Otto Johannes Bruun, Frederiksberg, DK

(74) Representative:
H. Koepsell, Dipl.-Eng.,
Patent Attorney, 5000 Köln

(72) Inventor:
same as Applicant

(54) Cup-shaped bottle caps made of thin aluminum foil and method for their preparation

Cup-shaped bottle caps from thin aluminum foil are produced in such a way that, after the rolling process, the aluminum foil is provided with embossings, the pattern of which is essentially transverse to the direction of the stress, which was caused in the foil by the rolling process. With this measure, it is achieved that the preformed bottle caps can be applied by pressing to the bottle neck without irregular and uncontrollable folds being formed, which would have an adverse effect on the appearance of the cap applied to the bottle.

Patent Claims

1. Cup-shaped bottle caps made of thin aluminum foil by rolling, which is produced by a blank of the aluminum foil around a truncated-cone-shaped body, **characterized by the fact that** the bottle cap (16) is provided with embossings (14), which run transversely to the direction (12) of the stress existing in the blank as a result of the rolling process.

2. Method for the preparation of a cup-shaped bottle cap made of thin aluminum foil, first a foil web being is produced by rolling and blanks of the foil web are wound around a truncated-cone-shaped body to form the bottle cap, characterized by the fact that, after the rolling process, the aluminum foil is provided with embossings, the pattern of which runs essentially transversely to the direction of the stress produced in the foil by the rolling process.

3. Method according to Claim 2, characterized by the fact that the embossing is applied to the foil web before it is divided into the individual blanks.

Specification

The invention concerns a cup-shaped bottle cap made of thin aluminum foil produced by rolling, and a method for its production, in which first a foil web is produced by rolling and blanks from the foil web are wound around a truncated-cone-shaped body to form the bottle cap. The overlapping side boundaries of the blank are joined together by gluing. The excess foil material located at the front boundary of the smaller diameter of the truncated-cone-shaped body is folded and pressed together to form the upper front boundary of the cap, that is, with reference to the cup shape, to form the bottom.

When applying to a bottle, such a cap is first placed loosely on the neck of the bottle, whereupon the surface area of the conical region of the cap is made to lie against the outside of the bottle neck by pressing. This pressing is so strong that, as a result of this, generally sitting of the cap on the neck of the bottle is ensured. Additional securing, for example, gluing is normally

not necessary. A cap applied in this way serves to protect the neck of the bottle and for ornamentation of the bottle.

The pressing of the cap onto the bottle neck is normally done using rubber jaws or a rubber hose which is pressed hydraulically against the conical surface of the foil and the bottle neck. Independently of the nature of the pressing agent used, in the region of the conical surface of the cap, frequently folds are produced which run irregularly and sometimes even cross one another. This irregular folding of the conical surface of the bottle cap must be attributed essentially to the fact that stresses are present in the blanks from which the caps are produced, which arise from the rolling process, which is necessary for producing the foil from which the blanks are taken. These irregular folds have an adverse influence on the appearance of the cap applied to the bottle neck. In consideration of the decorative function of the cap, this is regarded as being disadvantageous.

The task of the invention is to produce cup-shaped bottle caps of the type described at the outset in such a way that this disadvantage is at least greatly reduced. Especially, the application of the cap onto the bottle neck with the use of the usual means and machines should be possible without irregular folds occurring to such an extent that they have a noticeable adverse influence on the appearance of the cap.

In order to solve this task, the invention proposes to provide the aluminum foil after the rolling process with embossing, the pattern of which essentially runs transversely to the direction of the stress which is caused in the foil during rolling. Expediently, the embossing is applied onto the foil web before this is divided into the individual blanks.

A bottle cap which is provided with such embossings can be pressed onto the neck of the bottle using the usual rubber jaws or hoses, without having a significant adverse influence on the appearance due to uncontrolled formation of folds. In this way, it is possible to use bottle caps made of aluminum foil for the decoration and protection of such bottles, where special requirements are placed for the appearance.

The invention is explained with the aid of some schematic representations. The following are shown:

Figure 1 is a perspective view of a web made of thin aluminum foil by rolling,

Figure 2 is a representation of the foil web corresponding to Figure 1 after performing an additional treatment,

Figure 3 is a perspective view of a bottle cap.

The foil web **10** shown in Figure 1 has stresses that are due to the rolling process and which run in the longitudinal direction **12**. Before subdividing the web into the blanks needed for production of the caps, the web **10** is provided with embossings **14** running transversely to the longitudinal direction **12**.

The bottle cap shown in Figure 3 consists of a shell **18** which conically narrows upwards and a bottom **20** which is formed by folding and pressing together the blank beyond the conical mantle. The two longitudinal edges, which lie in the conical region **18** of the blank are glued together along region **22**.

Fig.1

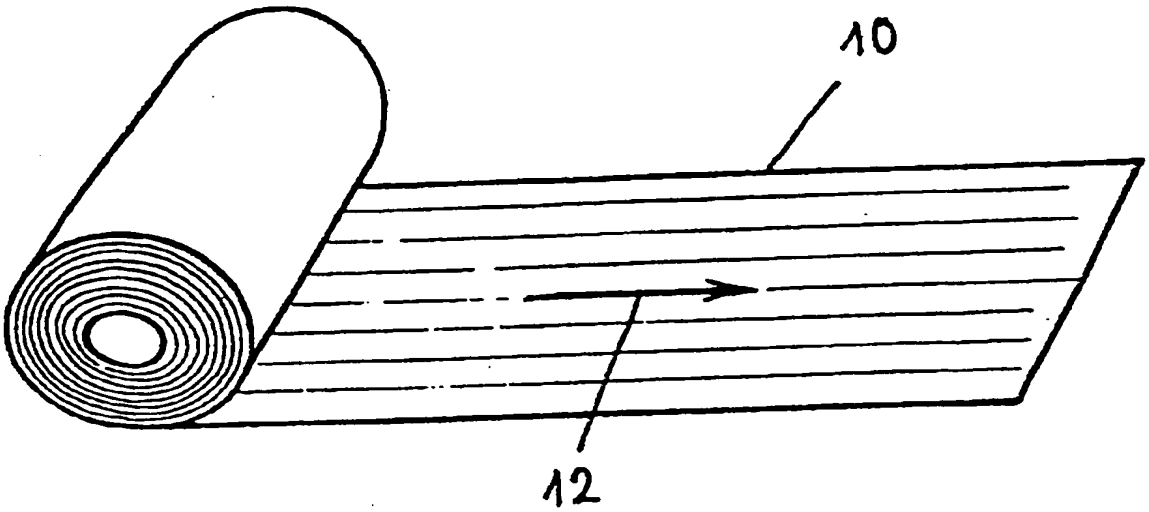

Fig.2

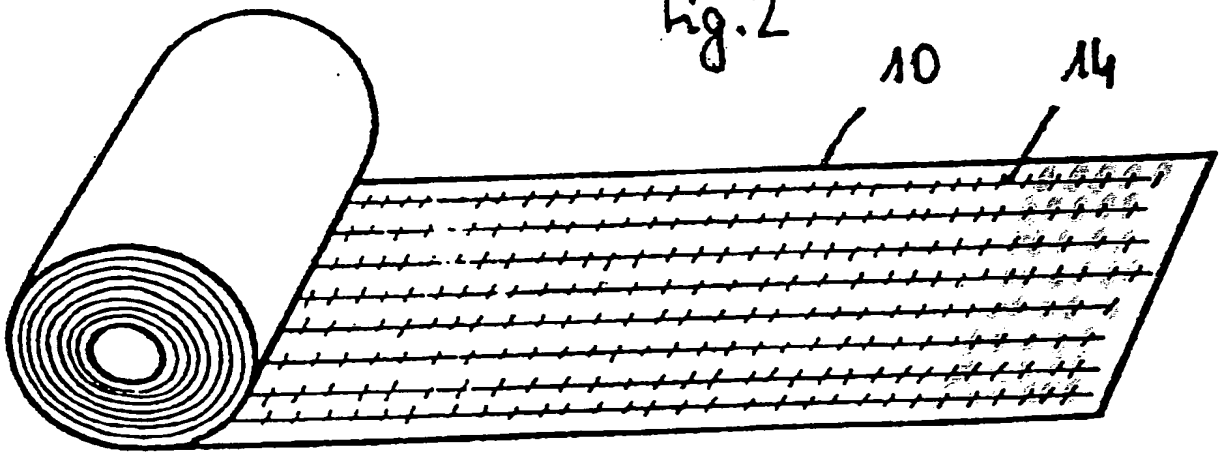

Fig. 3